

WHAT IS CLAIMED IS:

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5 1. An apparatus for transmitting, receiving and manipulating information on a computer system, the apparatus including a plurality of containers, each container being a logically defined data enclosure and comprising:

an information element;

10 a plurality of registers, the plurality of register forming part of the container, a first register of the plurality of registers for storing a unique container identification value, a second register of the plurality of registers that stores information and evolves according to the relationship, use and interaction of the container with other containers, processes and systems; and

a gateway attached to and forming part of the container, the gateway controlling the interaction of the container with other containers, systems and process.

15 2. The apparatus of claim 1, wherein the information element is one from the group of text, graphic images, video, audio, a digital pattern, a process, a nested container, bit, natural number and a system.

3. The system of claim 1, wherein the plurality of registers include at least one container history register for storing information regarding past interaction of the container with other container, system or processes, the container history register being modified.

20 4. The system of claim 1, wherein the plurality of registers include at least one system history register for storing information regarding past interaction of the container with different operating system and network processes.

5. The system of claim 1, wherein the plurality of registers include at least one predefined register, the predefined register being a register associated with an editor for user selection, the predefined register appendable to any container.

6. The system of claim 1, wherein the plurality of registers include a user-created register, the user-created register generated by the user, one or more of which is appendable to any container.

7. The system of claim 1, wherein the plurality of registers include a system-defined register, the system-defined register set, controlled and used by the system, one or more of which is appendable to any container.

8. The system of claim 1, wherein the plurality of registers include at least one register for controlling the relationship of the container with other containers, systems and processes using time as a parameter.

9. The system of claim 8, wherein the plurality of registers include:
an active time register for identifying times at which the container will act upon other containers, processes, systems or gateways;
an passive time register for identifying times at which the container can be acted upon other containers, processes systems, or gateways; and
a neutral time register for identifying times at which the container may interact with other containers.

10. The system of claim 1, wherein the plurality of registers include at least one acquire register for controlling whether the container adds a register or a container from other containers when interacting with them.

11. The system of claim 1, wherein the plurality of registers include at least one register for controlling the relationship of the container with other containers using space as a parameter.

12. The system of claim 11, wherein space refers to the geographic location of a the container.

13. The system of claim 11, wherein space refers to the logical address space of a network in which a container resides.

14. The system of claim 11, wherein the plurality of registers include:
an active space register for identifying space in which the container will act upon other
5 containers, processes, systems or gateways;
an passive space register for identifying from which the container can be acted upon other
containers, processes systems, or gateways; and
a neutral time register for identifying space in which the container may interact with other
containers.

10 15. The system of claim 1, wherein the gateway includes means for acting upon
another container, the means for acting upon another container using the plurality of register to
determine whether and how the container acts upon other containers.

15 16. The system of claim 1, wherein the gateway includes means for allowing
interaction, the means for allowing interaction using the plurality of registers to determine
whether and how another container can act upon the container.

17. The system of claim 1, wherein the gateway includes means for gathering
information, the means for gathering information recording register information from other
containers, systems and processes that interact with the container.

20 18. The system of claim 1, wherein the gateway includes means for reporting
information, the means for reporting information providing register information to other
containers, systems and processes that interact with the container.

19. The system of claim 1, wherein the gateway includes an expert system including
rules defining the interaction of the container with other containers, systems and processes.

20. A method for creating an interactive information container, the method including the steps of:

forming a container;
selecting an interactive register for the container;
5 identifying an item for inclusion in a container; and
creating a container element that includes the identified item.

21. The method of claim 20, wherein the step of forming a container further comprising the steps of:

10 displaying a plurality of container levels;
receiving input from a user selecting one of the displayed container level; and
displaying a container template corresponding to the container level input.

22. The method of claim 20, wherein the step of selecting an interactive register further comprising the steps of:

15 displaying a list of available registers;
receiving input selecting an available register from the list of available registers;
receiving input values for the selected available register; and
appending the register to the container.

23. The method of claim 20, wherein the step of creating a container element that includes the identified item further comprising the steps of:

20 providing a data structure as part of the container element;
storing the identified element in the data structure; and
associating the container element with the container.

24. The method of claim 20, wherein the step of forming a container includes the step of providing for the container a gateway that uses the interactive register to control the
25 interaction of the container with other containers, processes, and systems.

25. The method of claim 24, wherein the step of providing a gateway further comprising the steps of:

determining a current gateway for a system upon which the container is being created;
replicating the current gateway to create a new gateway; and
5 associating the new gateway with the container.

26. The method of claim 24, wherein the step of providing a gateway further comprising the steps of:

determining a register for a system upon which the container is being created;
replicating the determined register to create a new register; and
10 associating the new register with the container.

27. The method of claim 20, wherein the step of selecting an interactive register further comprising the steps of:

retrieving a list of available registers;
selecting an available register from the list of available registers by the system;
15 receiving input values for the selected available register from the system; and
appending the register to the container.

28. The method of claim 20, wherein the step of creating a container element that includes the identified item is performed by a system interacting with the container, and further comprising the steps of:

20 providing a data structure as part of the container element;
storing the identified element in the data structure; and
associating the container element with the container.

29. A method for interacting between a first interactive information container and a second interactive information container, the method including the steps of:

25 determining identification information for the first container using a first gateway;
determining identification information for the second container using a second gateway;

determining whether the first container can act upon the second container using the first gateway and a register of the first container;

determining whether the second container can be acted upon by the first container using the second gateway and a register of the second container; and

5 performing the interaction between the first and second containers prescribed by the first gateway and the register of the first container if both the first container can act upon the second container and the second container can be acted upon by the first container.

10 30. The method for interacting of claim 29, wherein the steps of determining identification information are performed by reading respective identification registers of the first and second containers.

31. The method for interacting of claim 29, further comprising the step of altering a register of the first container and a register of the second container to reflect the interaction between the first container and the second container.

15 32. The method for interacting of claim 29, further comprising the step of adding registers to the first container based on the registers in the second container and the second gateway.

33. The method for interacting of claim 29, wherein the step of performing also uses the second gateway and the register of the second container to determine the prescribe action to be taken.

20 34. The method for interacting of claim 29, further comprising the steps of:
determining whether the first container should add an identified register of the second container as a new register of the first container using an acquire register and the first gateway of the first container; and

25 adding the new register to the first container if it is determined that the new register should be added to the first container.

35. The method for interacting of claim 29, further comprising the step of modifying the first gateway of the first container based on the interaction between the first container and the second container.

36. The method for interacting of claim 35, wherein the step of modifying includes
5 modifying rules of an expert system that forms the first gateway of the first container.

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